

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 October 2001 (25.10.2001)

PCT

(10) International Publication Number
WO 01/80111 A1

(51) International Patent Classification⁷: G06F 17/60

(21) International Application Number: PCT/KR00/00585

(22) International Filing Date: 5 June 2000 (05.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2000/19524 14 April 2000 (14.04.2000) KR

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(81) Designated States (national): AE, AL, AM, AT, AU, AZ,
BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,
DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV,
MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO,
RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
US, UZ, VN, YU, ZA, ZW.

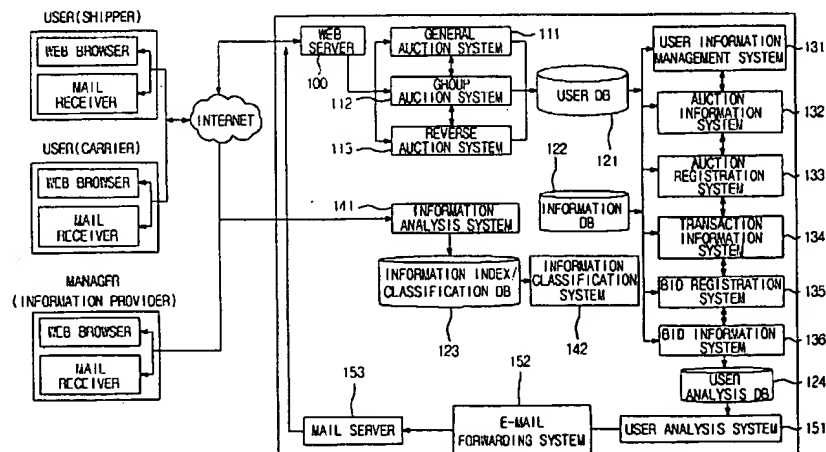
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF OPERATING FREIGHT MARKET OVER THE INTERNET



(57) Abstract: A method of operating a freight market over the Internet whereby commercial transactions can be directly made between shippers and carriers by means of general auctions, reverse auctions, group auctions, etc., regardless of where they are located, in the freight market which is categorized into international marine transportation, international air transportation, trucking, express courier, etc. If a given shipper or carrier applies for an auction with respect to a cargo to be transported or an available facility by entering the particulars of the cargo or the facility after logging in a Web server through his computer, then the Web server assigns an auction number to the cargo or the facility whose auction was applied for and registers it for the auction. If a plurality of carriers or shippers including the given carrier or shipper participate in bidding for the cargo or the facility with the assigned auction number by entering bidding conditions in the Web server through their computers, then the given shipper or carrier accepts and approves a desired one of the plurality of carriers or shippers as a successful bidder.

METHOD OF OPERATING FREIGHT MARKET OVER THE INTERNET

TECHNICAL FIELD

The present invention relates in general to methods of operating freight markets over the Internet, and more particularly to a method of operating a freight market
5 over the Internet whereby commercial transactions can be directly made between shippers and carriers by means of general auctions, reverse auctions, group auctions, etc., irregardless of where they are located, in the freight market which is categorized into international marine transportation, air transportation, trucking, express courier, etc.

BACKGROUND ART

10 Conventionally, transactions in the freight market have been made off-line. For marketing activities, a carrier has personally visited and/or phoned to the shipper and provided to the shipper about its available transportation facilities or transport services and applicable freight charges. Otherwise, the shipper has supplied detailed information regarding the cargo to be transported and offered his or her desired freight charges to a
15 carrier with which he or she has dealt. If the shipper and the carrier are in agreement, a transaction is made between them.

However, because such transactions have usually been made personally rather than publicly, black marketing has been prevalent in transport and freight industries, and rebating between shippers and carriers has been customary. In addition, since the
20 transactions have usually been made, based on limited information supplied from the carriers, higher freight charges have been paid. Because of the problems described above, freight charges have increased.

DISCLOSURE OF INVENTION

Therefore, the present invention has been made in view of the above
25 problems, and it is an object of the present invention to provide a method of operating a

freight market over the Internet, in which healthy commercial transactions are established by operating the freight market through public and clear transactions by means of general auctions, reverse auctions and/or group auctions, competitive power is strengthened in respect to exportation by providing cheaper and more reasonable freight charges and the
5 availability of transportation facilities is maximized by avoiding the operation of empty or half-filled vehicles and enabling the operation of full vehicles as much as possible.

In accordance with the present invention, the above and other objects can be achieved by a provision of a method of operating a freight market over the Internet, comprising the first step of allowing a given shipper or carrier to apply for an auction with
10 respect to a cargo to be transported or an available transportation facility by entering the particulars of the cargo or the transportation facility after logging in a Web server through his computer; the second step of allowing the Web server to assign an auction number to the cargo or the transportation facility whose auction was applied for and register it for the auction; the third step of allowing a plurality of carriers or shippers, including the given
15 carrier or shipper, to participate in bidding for the cargo or the transportation facility with the assigned auction number by entering bidding freight charges and conditions in the Web server through their computers; and the fourth step of allowing the given shipper or carrier to accept and approve a desired one of the plurality of carriers or shippers as a successful bidder.

20 Preferably, a web site for operating the freight market is opened on the Internet and the given shipper and carrier are connected to the freight market operating web site on the Internet through their computers.

More particularly, the given shipper and carrier are allowed access to the web site through logging-in after they are registered as members.

25 Preferably, the Web server is adapted to display information regarding bidding progress, bidding results and successful bids at the auction on a screen of the computer of the given shipper or carrier in response to his query about the progress of the auction after applying for the auction or making a bid for the auction.

More particularly, the Web server is adapted to send a message about the registration of the cargo or the transportation facility to the plurality of carriers or shippers via E-mail if the given shipper or carrier registers the cargo or the transportation facility for the auction, a message about the bidding for the cargo or the transportation facility to the given shipper or carrier via E-mail if the plurality of carriers or shippers make bids for the auction, and a message about bid acceptance to the given carrier or shipper via E-mail if the given shipper or carrier accepts and approves the other as the successful bidder.

Preferably, the above first step includes the step of, if the given shipper applies for a group auction by entering the particulars of the cargo in the Web server through his computer, allowing the Web server to perform a group auction process in such a manner that the given carrier is selected as the successful bidder if he offers the cheapest freight charges until a closing date of the group auction.

BRIEF DESCRIPTION OF DRAWINGS

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a block diagram showing the construction of a freight market operation system for execution of a method of operating a freight market over the Internet according to the present invention;

Fig. 2 is a flowchart illustrating a general auction process according to the present invention; and

Fig. 3 is a flowchart illustrating a reverse auction process according to the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

Hereinbelow, a method of operating a freight market over the Internet according to one embodiment of the present invention will be described in detail with reference to the accompanying drawings.

5 Fig. 1 is a block diagram showing the construction of a freight market operation system for execution of a method of operating a freight market over the Internet according to the present invention.

First, the freight market operation system configures a web site operating the freight market on the Internet. Then, as main users of the web site, shippers and/or
10 carriers access the web site on the Internet by means of their computers and use the Internet freight market.

The freight market operation system is adapted to configure and manage the freight market web site on the Internet. To this end, the operation system comprises a Web server 100, a general auction system 111, a group auction system 112, a reverse auction
15 system 113, a user database 121, a user information management system 131, an auction information system 132, an auction registration system 133, a transaction information system 134, a bid registration system 132, a bid information system 136, an information analysis system 141, an information index/ classification database 123, an information classification system 142, an information database 122, a user analysis database 124, a
20 user analysis system 151, an E-mail forwarding system 152, and a mail server 153.

Users enter into the Internet freight market web site of the Web server 100 through the Internet and register themselves as shippers or carriers. To use the Internet freight market, each user's computer has to be equipped with a Web browser and an E-mail receiver. A manager of the Internet freight market web site connects his or her
25 computer to the Internet through a Web browser linked to the Internet, enters into the web site, posts or provides a variety of information on the web site, and manages and updates the web site.

Users of the Internet freight market can be roughly classified into shippers and carriers. The shippers are those who have cargoes to be transported and receive transport services from the carriers, including trading companies, freight forwarders acting for shippers, brokering companies, etc. (herein, collectively "shipper(s)" is(are) used for the sake of convenience). Carriers are those who have facilities available for transportation and offer transport services to the shippers, including carriers operating ships, airplanes, trucks, and/or express couriers etc., their agents, freight forwarders acting for carriers, brokering companies, etc. (herein, collectively "carrier(s)" is(are) used for the sake of convenience).

10 If the shippers or the carriers want to use the Internet freight market, they first visit the freight market web site and register themselves as shippers or carriers by entering the particulars of their identities in the web site. Then, rules of using the freight market are displayed by the Web server 100 on the screen of the users who wish to register themselves as members, and the users are asked whether they agree to the rules as
15 displayed. The users can be registered as members only when they agree to the displayed rules.

The general auction system 111 connected to the Web server 100 allows a shipper to apply for an auction of the cargo to be transported and controls the auction process in which carriers participate. The transport services available for the general
20 auction system 111 are in nine categories: international transport marine container FCL (Full Container Load), international transport marine container LCL (Less than Container Load), international transport marine container S/C (Service Contract), international transport marine bulk Part, international transport marine bulk Full, international transport air cargo, international transport Sea & Air, trucking and express courier. The shipper
25 selects one of the above-described categories and registers the cargo to be transported, for an auction in the selected category. Then, carriers participate in making bids for the general auction process. The carriers have three methods to make bids while attending the auction process: to make bids for all the cargoes whose auction processes are applied, to

make a bid only for the cargo in the category in which they want to participate, and to make bids only for the cargo in the category whose conditions are given by the shipper. The general auction process in the present embodiment will be described later in detail with reference to Fig. 2.

5 The group auction system 112 connected to the Web server 100 controls a group auction process in which several shippers register their cargoes to be transported jointly for a group auction and then carriers make bids therefor. The group auction process is usually conducted when each shipper has a relatively small amount of cargo but they have the same destination. Because the cargoes of several shippers are jointly transmitted
10 at one time, each of them can save on the freight expenses and it is cost-effective. Application for a group auction process is a matter of option by shippers: they are asked whether they desire to register their cargoes for a group auction when registering them for a general auction. The group auction process is available for five categories: international transport marine container FCL, international transport marine container S/C, international
15 transport air cargo, international transport Sea & Air and international transport marine bulk Part.

 The reverse auction system 113 connected to the Web server 100 controls a reverse auction process in which carriers apply for an auction to seek a shipper or shippers to utilize their transportation facilities. The carriers holding means of transport can apply
20 for the reverse auction in the following four categories: international transport marine container Open Space, international transport marine bulk Part Open Space, trucking and express courier. A carrier selects one of the four categories described above and applies for a reverse auction process therefor, and then shippers participate in the reverse auction processes. Shippers have three methods to make bids while attending the reverse auction
25 process: to make bids for all the transportation facilities whose auctions are applied for, to make a bid only for the transportation facility in the category in which they want to participate, and to make bids only for the transportation facility in the category whose

conditions are given by the shipper. The reverse auction process will be described later in detail with reference to Fig. 3.

The user database 121 stores information regarding identities of users (shippers and carriers) registered as members in the Internet freight market web site and
5 auction information in respect of general auctions, reverse auctions and group auctions and bidding conditions posted by the users.

The user information management system 131 manages personal or corporate information regarding the users which was entered to attain memberships as shippers or carriers, and stores them in the user database 121. A registered user first logs
10 in the Internet freight market web site, and is then admitted to participate in the auction processes described above. For the admission, the user information management system 131 verifies the registered user's authenticity based on an ID and password entered when the user logs in, through inspection of an ID and password stored in the user database 121. When the user is verified as a member, he or she is admitted to participate in auction
15 processes.

The auction information system 132 classifies and analyses the particulars of the auctions applied for by shippers and displays them on the shippers' screen in the form of a bulletin board when their computers are logged in.

The auction registration system 133 requests each shipper to enter a
20 departing place and a destination, the quantity of cargo and any possible risk inherent in the cargo, a transport route, etc. when the shipper registers the cargo to be auctioned, and asks the shipper whether he desires to participate in a group auction process. Once a cargo to be auctioned is registered, market prices of the concerned cargo are simultaneously retrieved in real time.

25 The transaction information system 134 displays information regarding auctions or bids applied for and participated in by a user (a shipper or a carrier) when logging-in. Information regarding past transactions, pending auctions and finished transactions are displayed on the user's screen. The user can attain the information on the

bids made by him or her and successful bids through the transaction information system 134.

The bid registration system 135 allows a carrier to participate in an auction process when a shipper registers a cargo for an auction. The carrier can make a bid for a
5 desired auction process and decide a desired bidding price after inspecting others' lowest bidding prices registered before he or she participates in bidding therefor. The bid information system 136 retrieves the user database 121 when a carrier logs in, and displays information about the auctions in which the carrier has participated, in the form of a bulletin board.

10 The information analysis system 141 stores information on freight charges all over the world analyzed and provided by the web site manager (information provider). The manager (information provider) is comprised of managers by country and by region, who provide information on freight charges in their respective countries and regions.

The information classification system 142 internally analyzes real-time
15 freight charges all over the world, in response to auctions applied for and bids made in the Internet freight market web site, distinguishes the highest bids, the lowest bids and successful bid prices, and displays appropriate freight charges to shippers or carriers. The user analysis system 151 analyzes users' general auction, reverse auction and group auction processes (i. e., which have been applied for by shippers or carriers) and classifies
20 respective information into past, pending and finished transactions.

The E-mail forwarding system 152 performs forwarding of E-mails to the users. For example, if a user is registered as a new member, the system 152 delivers a message reporting attainment of membership to the new member user via E-mail, referring to the user database. If a shipper registers a cargo to be conveyed for a general auction or
25 a group auction, the registration particulars thereof are notified to registered carriers by means of E-mail. If carriers participate in making bids, the bidding particulars by them are notified to the shipper who applied for an auction, via E-mail. If the shipper accepts and approves a carrier's bid, such acceptance and approval by the shipper is notified to the

carrier via E-mail. If a carrier registers his or her transportation facility for a reverse auction, the registration particulars thereof are notified registered shippers via E-mail. When a transaction is completed, fees will be billed to the carrier who applied for all auction process, via E-mail.

5 Fig. 2 is a flowchart illustrating a general auction process according to the present invention. The general auction process will be described in more detail hereinafter referring to Fig. 2.

 A shipper registered as a member logs in and clicks a menu of "general auction registration" (S11). All transportation categories available for the general auction
10 process are then displayed on his or her screen. Such categories are international transport marine container FCL, international transport marine container LCL, international transport marine container S/C, international transport marine bulk Part, international transport marine bulk Full, international transport air cargo, international transport Sea & Air, trucking and express courier. The shipper selects one of the above-described nine
15 categories (S12). Although only nine categories are disclosed in the present embodiment, it will be appreciated by those skilled in the art that the present invention can be applied to more than 9 categories. The shipper enters a departing place and a destination, the quantity of cargo and any possible risk inherent in the cargo, a transport route, etc. and registers the cargo to apply for a general auction (S13).

20 When the shipper selects any one of the international transport marine container FCL, international transport marine container LCL, international transport marine container S/C, international transport marine bulk Part, international transport Sea & Air and also the cargo to be conveyed is of a general dry type, a display asking the shipper whether he desires to participate in a group auction appears on the screen. If the
25 shipper accepts the group auction, the auction process registered is automatically classified into the group auction process.

 If the shipper agrees to the auction registration, a message of acknowledgement is displayed and at the same time registration particulars as cargo

particulars, auction particulars, etc. are arranged and displayed on the auction registrant's screen along with an auction number (auction #) assigned by the Web server 100 (S14). The auction registrant reviews the cargo particulars displayed on the screen and those entered by him or her and finally approves the auction registration if they are identical
5 (S15). If they are not identical, the auction registrant corrects the incorrect information and finally approves the auction registration (S16).

The particulars of the cargo registered for the general auction process through the procedures described above are stored and analyzed in the database.

A carrier registered as a member enters into the Internet freight market web
10 site via an access to the Web server 100 and requests a participation in the bid (S17), and then the status of 'pending' auction cases in which the member carrier can participate for bidding is displayed on the carrier's screen (S18). The status of 'pending' auction cases includes information about auction numbers, closing dates of auctions, scheduled dates of departure, departing places, destinations, classifications of cargoes, the quantities of
15 cargoes, the number of bids made, etc. Such information can be sorted out by fields on the same screen so that the carrier can easily look for any necessary information.

The carrier can retrieve auction registration information to participate in unfinished auction processes. For this purpose, if the carrier selects any one of the following: all cargoes to be auctioned, cargoes to be auctioned which are sorted out by
20 trade routes, quantities, vehicles and transport zones, and a cargo to be auctioned according to the conditions given by a shipper, particulars of the selected cargo are arranged and displayed.

The carrier selects a number of an auction in which he or she wishes to participate among the cargoes applied for auction, the particulars of the selected cargo as
25 registered by the shipper when applying for an auction, and freight charges (bid conditions) entered by other carriers who participated in the bidding just before he or she has participated are displayed on the carrier's screen. If the carrier wishes to make a bid for the cargo, he or she enters competitive freight charges (bid conditions) and approves a

participation in the bidding (S19). In order to succeed in the bidding, the carrier participating in the bidding can retrieve other carriers' bid conditions from time to time and, in response thereto, can change his or her previous bidding price to a new competitive price as necessary.

5 If a shipper having registered his or her cargo for an auction requests the pending auction status, information regarding the pending auction process for the auction item registered by the shipper is displayed on the screen. Such information includes auction numbers, closing dates of auctions, scheduled dates of departure, departing places, destinations, classifications of cargoes, the quantities of cargoes, the number of bids made,
10 etc. The information can be sorted out by fields on the same screen so that the shipper can easily look for any necessary information. Besides, the shipper can learn about the status of finished auction cases, the status of reserved auction cases, and the status of all auction cases which have been applied for by him or her up to date (including pending, finished and reserved auction cases).

15 On the screen showing 'pending' auction cases, the shipper selects a desired auction number, and then information regarding names of the corresponding carriers, freight charges suggested by the carriers, transit time, methods of transport, etc. is displayed in real time. If the shipper selects one of finished auction numbers on the screen showing finished auction cases, the particulars of bids made by carriers in respect of
20 elapsed auction cases are displayed on the screen. On the screen showing reserved auction cases, if the shipper selects one of auction numbers, then booked cases according to the shipper's approval of a bid are retrieved and displayed.

 The shipper reviews particulars of bids known in the above-described manner in respect to the finished auction cases, designates an appropriate carrier for
25 transportation of the cargo and approves him or her as a successful bidder after the closing date of the auction (S20 and S21). Then, acknowledgement is displayed on the shipper's screen along with a message that the designated carrier will contact the shipper to deliver the concerned cargo with the bid price, and at the same time a message advising the

designated carrier of the success in the bidding is automatically sent to him or her via E-mail. Simultaneously, an applicable fee is automatically billed to the carrier.

A carrier can retrieve the auction cases in which he or she has participated in bidding. The carrier first enters into the Internet freight market web site and inquires
5 about the progress of bids made by him or her. Then, information on the progress of auction cases in which the carrier has participated, including information about auction numbers, closing dates, scheduled dates of departure, departing places, destinations, cargo classifications, the quantities of cargoes, the number of bids made, etc. is displayed on the carrier's screen. As for the pending auction cases, the carrier can make a bid adjustment
10 and then bid again so that he or she may succeed in the auction. To learn about the progress and results of the auction cases which the carrier has participated in bidding, he or she selects one of 'pending', 'finished', 'succeeded' or 'all' auctions, and then the particulars of the selected auction process are arranged and displayed on the carrier screen.

To specify, if a menu of 'finished' auction is selected, auction cases whose
15 processes are closed but unsuccessful are displayed. If a menu of 'succeeded' auction is selected, auction cases whose processes are closed and successful in bidding are displayed. If a menu of 'all' auction is selected, all the auction cases in 'pending', 'finished' and 'succeeded' status, in which the carrier has participated, are displayed.

If the carrier is selected as a successful bidder, he or she contacts off-line
20 the shipper having applied for the concerned auction and provides him or her with the transport service for the cargo. Through the procedures described above, the general auction process is completed.

Fig. 3 is a flowchart illustrating a reverse auction process according to the present invention. The reverse auction process will hereinafter be described in more detail
25 referring to Fig. 3.

A carrier registered as a member logs in to enter into the Internet freight market web site and applies for the reverse auction process (S31). For this purpose, the carrier selects any one of the following transport services or facilities which he or she

wishes to register for the reverse auction process: international transport marine container Open Space, international transport marine bulk Part Open Space, trucking and express courier (S32). In the present embodiment, four categories are only described, but the categories are not limited to them. The carrier applies for registration of the reverse auction by entering the particulars of the available transport service or facilities (S33). Then, a message of acknowledgement is displayed and at the same time the particulars of the transport service registered for the reverse auction are arranged and displayed. At this time, an auction number is assigned and displayed (S34). The carrier verifies whether the particulars of the transport service displayed on his or her screen are identical with those which he or she entered, and approves registration of the reverse auction if identical, and corrects any mistake or difference between them if not identical and then approves registration of the reverse auction (S35, S36).

The particulars of the transportation facility registered for the reverse auction are analyzed and stored in the database and utilized as auction information.

A shipper registered as a member logs in to enter the Internet web site and requests to participate in the bidding (S37). Then, the status of pending auction cases for which the shipper has participated in bidding, including auction numbers, closing dates, scheduled dates of departure, departing places, destinations, classification of facilities, the quantity of transport and the number of bids is automatically displayed in sequence. To obtain referential materials prior to participating in bidding, the shipper can retrieve the transport services or facilities whose reverse auction processes are in progress. The transportation facilities are divided into three categories: all facilities in the reverse auction process, facilities classified by trade routes, quantities of cargoes, types of facilities and means of transportation according to transport zones for reverse auctions, and facilities whose conditions are given by carriers. If the shipper requests such retrieval, the particulars of the concerned facility are arranged and displayed on his or her screen.

If the shipper selects an auction number from the display, the particulars of a facility entered by the concerned carrier are displayed on the screen (S39). If the shipper

wishes to participate in bidding of the facility, he or she enters desired freight charges and bid conditions and approves participation in bidding (S40). In the step of S39, since bid conditions of other shippers who have participated in the bidding are displayed on the screen, the shipper can enter a more competitive price than them by suggesting higher freight charges and better bid conditions, so that he or she may succeed in the bid. Even after approving the participation in bidding, the shipper can retrieve the bid conditions of other shippers before the "pending" auction process is closed, and can make a bid again to offer more competitive bid conditions for successful bidding.

The carrier applying for the reverse auction enters into the Internet web site and retrieves the progress of the reverse auction process applied for by him or her. If the carrier requests such retrieval, progress information of past reverse auction cases which he or she has applied for is automatically displayed. From the display, the carrier can learn about the progress and results of the past reverse auction cases. In the progress information described above, information about the progress of pending reverse auction processes and their results are displayed, and information about 'finished' and 'reserved' auctions are displayed with the results of finished reverse auction processes. If the carrier clicks an auction number in the 'progress' display, shippers' names and their desired cargoes to be transported and the transportation facility applied for the reverse auction process are displayed in real time. If the carrier clicks an auction number in the 'finished' auctions displayed on the screen, he or she can retrieve bidding status of the auction cases whose processes are closed, and sorted out by shippers. If the carrier clicks an auction number in the 'reserved' status display, the status of transport services booked for transport by the carrier's approval in bidding can be retrieved. If the carrier wishes to retrieve all of the auction cases registered by him or her, the status of 'all' auction processes can be displayed by clicking a menu of 'all' auction.

The carrier reviews bid conditions sorted out by shippers for the transportation facility means in 'finished' reverse auctions whose processes are closed, and selects a shipper who has suggested the most appropriate conditions and approves his or

her bid (S40 and S41). Then, a message of acknowledgement is displayed on the carrier's screen along with the profile of the shipper selected as a successful bidder by the carrier and at the same time, a message requesting the carrier to contact the shipper to confirm the booking of the concerned facility is displayed on the same screen. A message of
5 successful bidding is automatically sent to the successful shipper via E-mail. Simultaneously, an applicable fee is automatically billed to the carrier.

A shipper making a bid in the reverse auction process can learn about the progress of a reverse auction case in which he or she has participated by entering into the Internet freight market web site. If the shipper requests to retrieve the progress of auction
10 cases in which he or she has participated, information about the progress of auction cases in which he or she previously participated is automatically arranged and displayed. If the shipper selects any one of the following four categories: 'pending', 'finished', 'succeeded' and 'all' auctions, the particulars of the concerned category are arranged and displayed. To specify, if the shipper selects the 'succeeded' category, the particulars of his or her
15 successful bids in the reverse auction processes in which he or she has participated are displayed. If the shipper selects the 'finished' category, auction cases in which he or she has participated but not succeeded are displayed. If the shipper selects 'all' category, all the auction cases in 'pending', 'succeeded' and 'finished' status are displayed.

Through these procedures, the shipper learns about bidding progress,
20 bidding results, successful bid and the relevant facility, and contacts the concerned carrier as a successful bidder off-line for transport service of cargo. By this, the reverse auction process is completed.

A group auction process can be described as below.

A shipper registered as a member logs in and enters into the Internet freight
25 market web site. The shipper clicks registration of a group auction and selects a category appropriate for his or her cargo. The group auction process is available for the following five categories: international transport marine container FCL, international transport

marine container S/C, international transport air cargo, international transport Sea & Air and international transport bulk Part. However, the categories are not limited to them.

Then, the pending status of all cases registered for group auctions in the concerned category is displayed, while auction numbers, closing dates, scheduled dates of departure, departing places, destinations, classifications of cargoes, the quantities of cargoes and the number of bids are automatically arranged and displayed in sequence. From the display, the shipper clicks an auction number meeting his or her cargo conditions (i. e., the departing place, destination, scheduled date of departure and closing date of auction) and enters his or her cargo information for registration of the group auction. Then, a message of acknowledgement is displayed along with an auction number assigned. At the same time, the shipper is requested to verify the particulars of the registered auction.

If the shipper fails to find any carrier meeting his or her cargo conditions in 'pending' group auctions whose processes are in progress, he or she applies for registration of a general auction for the cargo. While applying for the general auction, the shipper can decide whether to apply for a group auction. Ordinary dry cargo can be the subject of the group auction. Cargoes exported to and imported from U. S. A. and dangerous articles or frozen articles cannot be subject to the group auction. The cargo information entered for registration of group auctions is analyzed and stored in the database and utilized as the auction information.

Shippers' participation in bidding, retrieval of bidding progress and successful bidding in the group auction process are of the same as that in a general auction process. However, a successful bidder is automatically selected as a carrier suggesting the lowest freight charges after the auction process closes. The successful bidding particulars are automatically sent to both the shipper and the carrier immediately after the auction process closes.

As described above, since transport and freight business is publicly and clearly operated by general auctions, reverse auctions and group auctions according to the present invention, healthy transactions in cargo business can be established. Further,

competitiveness in exportation can be obtained due to the lowered cost of cargo. Additionally, the operation of empty vehicles or half-filled vehicles are avoided and full cars are operated, so that the availability of transportation facilities can be maximized.

Although the preferred embodiments of the present invention have been
5 disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

CLAIMS

What is claimed is:

1. A method of operating a freight market over the Internet, comprising the steps of:
 - 5 a) allowing a given shipper or carrier to apply for an auction with respect to a cargo to be transported or an available transportation facility by entering the particulars of the cargo or the transportation facility after logging in a Web server through his computer;
 - b) allowing said Web server to assign an auction number to the cargo or
10 the transportation facility whose auction was applied for and register it for said auction;
 - c) allowing a plurality of carriers or shippers including said given carrier or shipper to participate in bidding for the cargo or the transportation facility with the assigned auction number by entering bidding freight charges and conditions in said Web server through their computers; and
 - 15 d) allowing said given shipper or carrier to accept and approve a desired one of said plurality of carriers or shippers as a successful bidder.
2. The method according to Claim 1, wherein a web site for operating said freight market is opened on the Internet, said given shipper and carrier being connected to said freight market operating web site on the Internet through their computers.
- 20 3. The method according to Claim 2, wherein said given shipper and carrier are allowed access to said web site through logging-in after they are registered as members.
4. The method according to Claim 2, wherein said Web server is adapted to display information regarding bidding progress, bidding results and successful bids at
25 said auction on a screen of said computer of said given shipper or carrier in response to

his query about the progress of said auction after applying for said auction or making a bid for said auction.

5. The method according to Claim 2, wherein said Web server is adapted to send a message about the registration of said cargo or the transportation facility to said plurality of carriers or shippers via E-mail if said given shipper or carrier registers said cargo or facility for said auction, a message about the bidding for said cargo or the transportation facility to said given shipper or carrier via E-mail if said plurality of carriers or shippers make bids for said auction, and a message about bid acceptance to said given carrier or shipper via E-mail if said given shipper or carrier accepts and approves the other as said successful bidder.

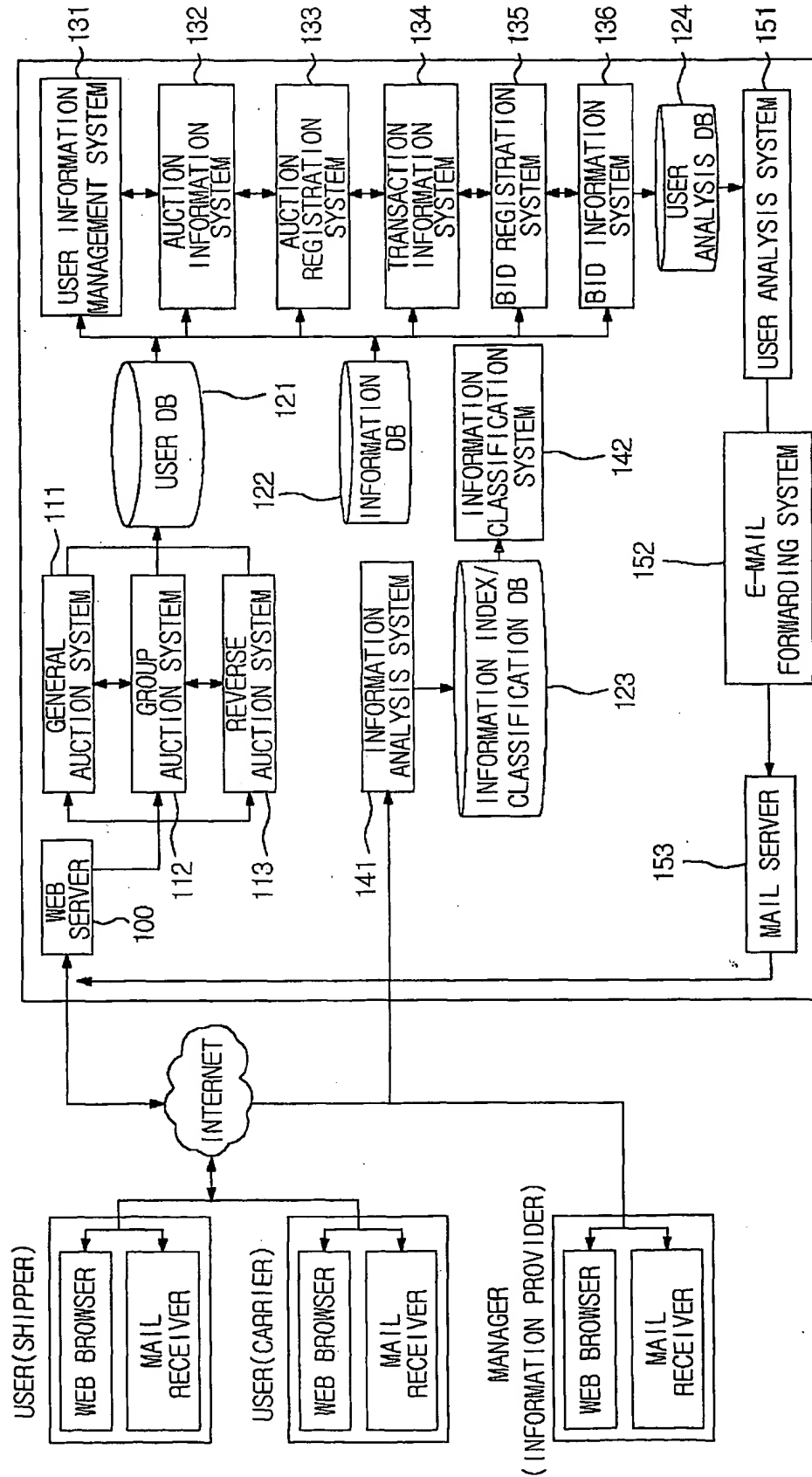
6. The method according to Claim 2, wherein said step a) includes the step of, if said given shipper applies for a group auction by entering the particulars of said cargo in said Web server through his computer, allowing said Web server to perform a group auction process in such a manner that said given carrier is selected as said successful bidder if he offers the cheapest freight charges until a closing date of said group auction.

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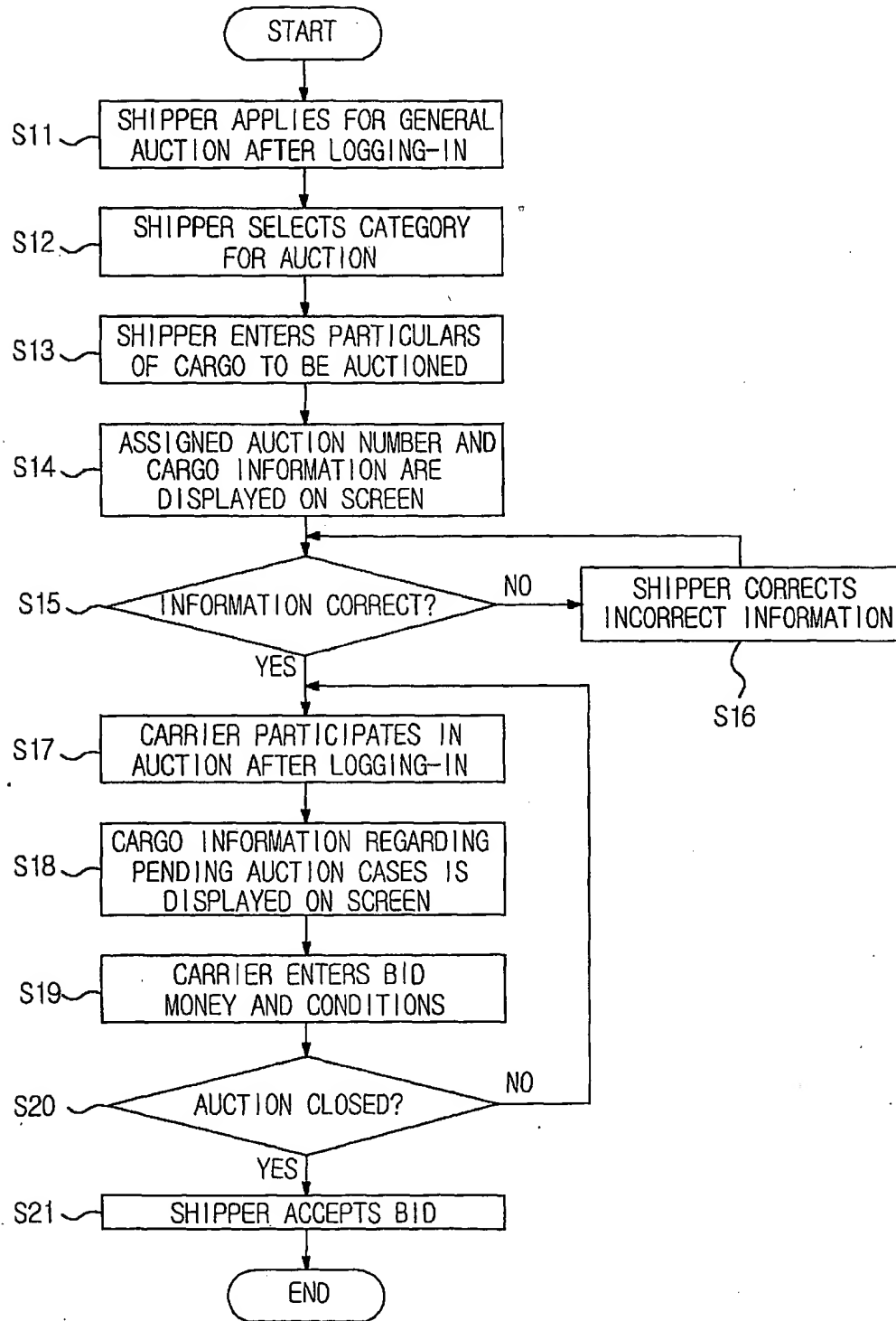
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FIG. 1

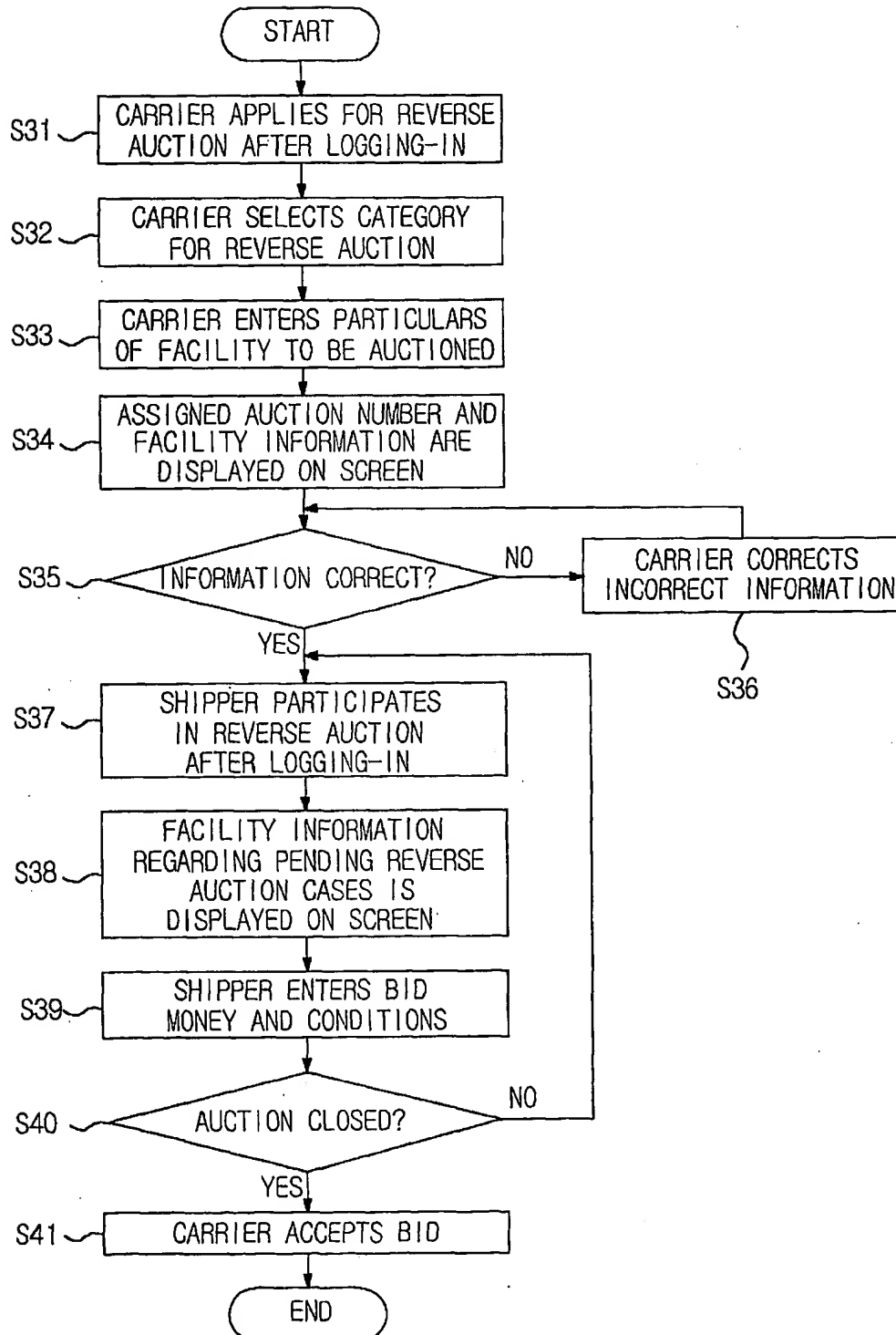


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FIG. 2



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FIG. 3



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR00/00585

A. CLASSIFICATION OF SUBJECT MATTER**IPC7 G06F 17/60**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G06F 17/60, IPC7 G06F 19/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US4799156 A (STRATEGIC PROCESSING CORP.) JAN. 17 1989 ABSTRACT	1-6
A	WO9906934 A (CSX TECHNOLOGY INC.) FEB. 11 1999 ABSTRACT	1-6
A	US5890138 A (BID.COM INTERNATIONAL INC.) MARCH 30 1999 ABSTRACT	1-6
A	US5794207 A (WALKER ASSET MANAGEMENT LTD.) AUG. 11 1998 ABSTRACT	1-6

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

10 JANUARY 2001 (10.01.2001)

Date of mailing of the international search report

11 JANUARY 2001 (11.01.2001)

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